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ABSTRACT

An informal study of four fourth and fifth grade poor readers was undertaken (1) to compare the repeated reading method of instruction with the method of teaching children to recognize lists of words rapidly and (2) to develop an approach that might be helpful in studying the effects of prosodic cues and their contributions to the repeated reading method. In the first part of the study, the four students practiced all the words in a passage until they could recognize them correctly and rapidly (word list practice). They then read the passage aloud and wrote answers to comprehension questions. For the repeated reading practice, the students read a different passage aloud twice and wrote answers to comprehension questions. A comparison of the scores from each condition revealed that the students' oral reading performance and their comprehension were better when they had repeated reading practice. The second part of the study investigated the effects of modeling correct intonation on the oral reading and comprehension performance of the same four students. The repeated reading practice was the same as in part one, but for patterned response, the children listened to the passage being read as they followed along in their own text. They then read the passage aloud once and took the comprehension test. The results showed that the students scored slightly better in comprehension and made fewer errors in the patterned response method, supporting the theory that prosodic cues have an influence on oral reading and comprehension. (FL)

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What Research on Prosodic Cues Might Have to Say About Comprehension and Automaticity Theory

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What Research on Prosodic Cues Might Have to Say About Comprehension and Automaticity Theory

Children beyond the third and fourth grade levels who have not mastered decoding skills but who seem to have developed some comprehension abilities are often a dilemma for reading teachers or specialists. These children who tend to score better on the comprehension subtests of standardized tests than they do on the word attack subtests are often found to be learning disabled when they are tested by the members of multi-disciplinary teams because they score the required two years below grade level in reading and in one other subject which can be and often is spelling.

The inclination of many reading teachers is to teach to a child's reading strengths which in these cases seems to be comprehension. And such strategies as providing an overview, prereading questions, or setting a purpose for reading do seem to help these children read and understand a particular passage. But usually these students have difficulty employing comprehension strategies on their own and quickly become confused about the overall meaning of a passage if they cannot identify some of the key words. Often teaching comprehension strategies to these readers seems like giving them a crutch rather than helping them to solve their reading problem.

Research on Rate of Decoding

In a recent article, Stanovich (1980) develops the argument that poor readers who are deficient in word analysis skills may be employing higher level strategies such as using context or intraword redundancy to identify words. Stanovich describes this as a type of compensatory processing where a deficit in any particular process will result in a greater reliance on other knowledge sources regardless of their level in the processing hierarchy. This idea of compensatory processing could possibly explain why some poor readers seem to be able to comprehend better than they can decode words. Often these students score in the average or better range on intelligence tests. They demonstrate a sound knowledge of the world around them. The theory of compensatory processing would seem to suggest that these children could assign meaning to print based on their recognition of some of the words and their own common sense about how people act and events happen. Perhaps these students also learn a great deal from listening to what their teacher says about a passage or story and have also learned to use many of the cues that are present in questions when they are responding to items on comprehension tests.

But the main point of Stanovich's article is that good readers quickly and automatically identify words so that they have

attentional capacity left over for comprehension. Poor readers, on the other hand, who cannot identify words rapidly must expend much attention and effort trying various strategies either to identify and comprehend specific words or failing that trying to get some meaning from the text based on their background experiences and the words they can identify. Either way, the task is laborious, time-consuming and can result in comprehension errors.

It would be tempting to conclude based on Stanovich's discussion that poor readers should be taught to identify words faster. Fortunately or unfortunately, some research has already been done which shows that the answer is not that simple. Fleisher, Jenkins, and Pany (1979) report the results of two studies which were designed to examine the effects of increasing decoding speed on the comprehension of poor readers. In these two studies, poor readers were trained to read word lists and phrases before reading the passage that contained the words. Their scores on subsequent comprehension measures were compared with good readers and untrained poor readers. Fleisher et al. found that decoding training whether in the form of word lists or of phrases did not result in improved comprehensin on the part of the trained poor readers. These findings support the earlier results reported by Samuels, Dahl, and Archwatemy (1974) that students who received speeded isolated word training performed no better on comprehension tests than untrained readers. These studies all suggest that poor readers have difficulty transferring single word skills to context

and thus to comprehension. In their concluding remarks, Fleischer, Jenkins, and Pany mention a study reported by Samuels (1979) in which poor readers were instructed to practice rereading a series of short passages until a rate criterion was met. In this study, improvements were noted in both fluency and comprehension, though Samuels does not actually provide the data to demonstrate this improvement.

Chomsky (1978) also used this method of repeated reading practice with students who had been taught reading in a phonics based program but who still had not mastered decoding by the fourth grade. She also indicated that there was an improvement in comprehension which carried over to new material. Fleischer, Jenkins, and Pany suggest that long-term repeated reading practice of words in context may be a "viable instructional strategy for improving comprehension" (p.47). They point out that it is not known what aspects of the repeated reading practice are responsible, though they indicate that the procedure could help students to chunk information, to become familiar with the vocabulary and the syntactic structure, or repeated reading may simply reduce the attentional burden of slow decoding. There is another factor however, that could contribute to the reported improvement in comprehension that results from repeated reading practice: Possibly this procedure helps readers to associate the prosodic or intonation cues to meaning which are present in spoken language with the printed text where such cues are missing.

Research on Prosodic Cues

Read, Schreiber, and Walia (1979) report the results of a study which suggests that prosodic cues are important signals of the syntactic structure of spoken language. They observed that six and seven year olds were not able to correctly identify the subject noun phrases of a spoken sentence if that sentence had a misleading intonation pattern. Using a type of modeling process, Read et al. trained first graders to identify the subject noun phrase in a spoken sentence. After each subject had reached the criterion of correctly identifying four consecutive multiple word subject noun phrases, they were given 13 test sentences nine of which had misleading intonation patterns and the others having multiple-word subjects and normal prosody.

The sentences with the misleading patterns were constructed by recording the normal pronunciation for sentences like the following:

a) Your neighbors shovel their sidewalk carefully

b) Your neighbor's shovel got lost in the snow.

Then Read et al. exchanged the phrase in which shovel was a noun with the phrase in which shovel was a verb. In other words, there is normally a prosodic break after the last word of a subject noun phrase; when this break occurs when "shovel" is used as a verb, the resulting pattern, though subtle is noticably abnormal.

Read, Schreiber, and Walia found that first graders were able to correctly identify the noun phrases in only 30% of the sentences

with the false contours. But they got 83% of the normal sentences correct. Adult subjects who were given the same task were mislead by incorrect prosody only 18% of the time. In a later post hoc study, Read et al. found that those first graders who correctly identified the subject noun phrases most often, even when the prosody was misleading, were ranked as good readers by their teachers significantly more often than those students who were mislead by the incorrect prosody.

Based on these findings, Read et al. develop the hypothesis that learning to read involves in part learning to parse or recognize the syntactic cues to meaning in printed text without the use of the prosodic cues which are present in spoken language. Read et al. (1979, p.38) go on to say:

> Quite possibly in learning to read, a child transfers syntactic knowledge previously embedded in production routines to new routines for comprehending written language. For instance, in an analysis-by-synthesis study, a child might determine, partly on the basis of context, what a sentence means, then produce the appropriate utterance, and then observe how that utterance is realized in print. One fact in support of such a learning process is that learning to read almost invariably includes a stage of reading aloud...

Following this line of reasoning, it would seem logical to hypothesize that if children are not able to compensate for the lack of prosodic cues in written text, reading and comprehension difficulties might result. For example, if children rely heavily on duration as a cue to structure in comprehending speach, problems might arise because prosodic cues are not systematically preserved in written language. Periods, commas, and parenthetical modifiers do signal structural information but other sentence internal structures such as the subject-predicate boundary and some embedded clauses are not signaled by punctuation.

The findings of Read, Schreiber, and Walia as well as their hypothesis that poor readers may have difficulty learning to compensate for the lack of prosody in written text would seem to provide some insight into what may be happening with poor readers who have poor decoding skills and some compensatory but essentially inadequate comprehension skills. First, and probably most important these findings point out or remind us of the strong link between written and spoken language. In order to learn to read children must learn that certain sounds are associated with certain written symbols. Secondly the results of the study reported by Read et al. indicate that in order to learn to read children not only need to learn letter-sound correspondences, they also might need to learn to associate the correct prosodic cues with the printed text or to compensate in some way for the lack of them.

This reminder of the link between spoken language and learning to read and the idea that children might need to learn sound-print correspondences not only on the level of letters, syllables, and words but also on the sentence level supports the method of repeated reading and possibly explains one way in which the method aids poor readers, i.e. it helps them associate sound with print at all levels from the individual letter to the entire sentence. This research on prosodic cues also helps to explain why instructing poor readers to increase their decoding speed for isolated words has little or no effect on their comprehension. If children indeed relie on prosody as a cue to syntactic structure and thus as a cue to meaning, then learning to recognize words quickly out of the context of meaningful sentences and their inherent prosody would do little to improve comprehension.

A final point needs to be made regarding the remedial treatment of these readers. Chomsky alludes to it but neither Stanovich (1980), Samuels (1979), or Fleischer, Jenkins, & Pany (1979) mention what might seem to some to be the obvious solution for readers with poor decoding skills. Namely, teach them phonics. Probably phonics instruction is not seen as a useful alternative by these writers because in many cases this type of poor reader has been instructed in letter-sound correspondences for at least three years and this instruction has not been effective. This was the case with the children who worked with Chomsky and

is the case with the children who participated in the informal study which is described below.

Informal Study of the Repeated Reading Method

The work of Samuels (1978) and Fleischer, Jenkins, and Pany (1979) raises some interesting questions about the method of repeated reading and about how children do learn to read. Though the evidence they provide does suggest that repeated reading is more effective than learning to read lists of words rapidly, a direct comparison of the two methods has not been done. The research on prosodic cues adds another dimension to the method of repeated reading. Read, Schreiber, and Walia (1979) suggest that children may need to learn how to compensate for the lack of prosodic cues in printed text in order to become effective readers. Schreiber (1980) develops this idea further and presents the argument that the repeated reading method may help children with this task. But again, there is no direct evidence to support this claim.

Part I of the following study was done to compare the repeated reading method with the method of instructing children to recognize lists of words rapidly. The purpose of Part II was to try an approach which might be useful in studying the effects of prosodic cues and their contribution to the repeated reading method.

Part I

In Part I of this study, four fourth and fifth graders

practice all the words in a pasage until they could recognize them correctly and rapidly (Word List Practice). Then they read the passage aloud and wrote answers to comprehension questions. These same four children read a second passage aloud twice (Repeated Reading Practice) and also wrote answers to comprehension questions. The oral reading of each child on each passage was taped. After the oral reading performances and the comprehension tests were scored, each child's oral reading and comprehension scores on the Word List Practice were compared with his or her own performance on these measures following the Repeated Reading Practice.

Subjects. Of the four students who participated in this study, three were fifth graders and one was a fourth grader. All four children consistently failed most of the word attack subtests and consistently passed most of the comprehension subtests of the Macmillan r (Smith & Wardhaugh, 1980) end of level achievement tests. Two of the students who had been tested with the Stanford Diagnostic Reading Test (Karlsen, Madden, & Gardner, 1976) scored at the third and fourth stanines on the word attack subtests and at the fifth stanine on the comprehension subtests.

The oral reading performance of all four children could be characterized as slow and halting. Omissions and substitutions were frequent. Their oral performance did not reflect an wareness of unmarked prosodic cues, in fact, they often did not respond to the periods and commas that were present in the text.

Materials. The passages used in this study consisted of the

beginning portion of stories selected from a third grade text that is part of the Macmillian r series. All selections were approximately 125 words long. The comprehension tests for both selections were based on questions included in the teacher's manual that corresponded to the student text. There were four inferential and five factual questions for each passage.

Procedure. Each child worked individually with the investigator. Two of the children received the Word List Practice first and then the Repeated Reading Practice. The others received the treatments in reverse order. In the Word List Practice the child practiced the words contained in the story until all the words were identified rapidly and correctly. Following this, they read the passage once outloud. If they were unable, even after the word list practice to identify a word in the context of the passage, they were told what the word was. Finally, they took the comprehension test. The Repeated Reading Practice consisted of asking the child to read the selected passage twice. Again if the child could not identify a word he or she was told what it was. The comprehension test was administered after the second oral reading.

Results. The oral reading errors made by each child in both the Word List Practice and in the second reading of the Repeated Reading Practice were scored according to the method recommended by Silvaroli (1976). No attempt was made to qualitatively analyze these errors; they were simply counted. The number of errors made by each child in both practices as well as their comprehension

scores are shown in Table 1. Inspection shows that the childrens' oral reading performance and their comprehension were better when they had theRepeated Reading Practice. A non-parametric statistic, the Walsh test (Siegel, 1956) was used to analyze these data. This test which gives significance levels for n's as small as four showed that the differences between the two practices for both oral reading errors and comprehension were significant at $p < .062$. The finding that comprehension was better in the Repeated Reading Practice is not surprising. As Fleischer, Jenkins, and Pany (1979) reported, word list practice did not have an effect on improving the comprehension of poor readers while Samuels (1979) indicated that the repeated reading method did result in improved comprehension. The finding that the children made fewer oral reading erors after they had practiced reading a passage once than when they had practiced the words out of context could be seen as support for the notion presented by Read, Schreiber, and Walia (1979) that children need to practice the process of transfering their knowledge of oral syntax to the printed text. It would be tempting to say that the second practice gave the children an opportunity to associate the correct prosodic cues with the text. Their intonation seemed to be better on the second reading. But that is only an impression and difficult to verify. And that is a persistent problem with researching the effects of prosodic cues. Their influence is illusive. Children seem to be attending to them. Students often go back and self-correct when their only

oral reading error was that they had used an incorrect intonation pattern. They also seem to be attentive to prosodic cues when they are read to as they follow along with the text and they seem to be able to model the intonation patterns they have heard. Part II of this study was done to learn more about the effects of modeling correct intonation patterns on the oral reading and comprehension performance of the same four students who participated in Part I. Although the procedure described below is admittedly not a direct way of studying the influence of prosody, it is perhaps a start.

Part II

The materials used in Part II were selected from the same text as those used in Part I and the comprehension questions were constructed in the same way. The Repeated Reading Practice was also the same as it had been for Part I. But for the Patterned Practice, the children listened to the passage being read as they followed along in their own text. Then they read the passage aloud once and took the comprehension test. The oral reading errors from both practices and the comprehension tests were scored as in Part I. Table 2 shows the number of these oral reading errors and the comprehension scores. The children as a group scored slightly better in comprehension and made fewer errors in the Patterned Practice. According to the Walsh test these differences are significant at $p < .062$ in spite of the fact that they do seem very small. This finding does seem to provide some support for the notion that prosodic cues

do have an influence on oral reading performance and on comprehension. At least correct intonation was a factor that was present when the children listened to the passage being read.

Conclusion

The method of repeated reading is one that I use often in various forms with the poor readers on my caseload. Sometimes I ask them to reread a passage several times and simply encourage them to try to read it more smoothly. Other times the repeated reading practice takes the form of rereading a story, a play, or a poem so that the children can make a presentation to the other students in their class. The children I work with seem to enjoy doing this and few complain about having to read something over and over. But when their overall progress in learning to read seems slow or nonexistent, I often wonder if the method is really useful. And if it is; why is it? Or what does the method help children to learn? These doubts and thoughts prompted me to search for some support for the method and some explanation as to why it might be effective. The studies done by Fleischer, Jenkins, and Pany (1979) and Samuels (1979) do support the method and the research on prosodic cues does provide at least a partial explanation. The findings of the study reported here are of course limited by the small number of subjects, the informal methodology and the fact that the subjects were my students. About all I can safely say is that based on the results, I feel a little more comfortable about using the repeated reading method.

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Table 1

Word List and Repeated Reading Oral Reading Errors and Comprehension Scores

Subject	Word List Oral Reading Errors	Comp. Score	Repeated Reading Oral Reading Errors	Comp. Score
1	12	7	11	8
2	20	7	15	9
3	14	6	10	9
4	17	6	6	9

Table 2

Practice and Patterned Oral Reading Errors and Comprehension Scores

Subject	Practice Oral Reading Errors	Comp. Score	Patterned Oral Reading Errors	Comp. Score
1	9	8	5	9
2	9	7	8	8
3	8	9	8	9
4	8	9	9	9